Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

February 10, 2017

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

Dear Tom Moe:
Enclosed are the analytical results for sample(s) received by the laboratory on February 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures

cc: Cory Hertling
Terri Sabetti, NTS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

CERTIFICATIONS

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

Duluth Minnesota Cerification ID's

4730 Oneota St., Duluth, MN 55807
Minnesota Dept of Health Certification #: 027-137-152
Wisconsin DNR Certification # : 999446800
North Dakota Certification #: R-105

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

SAMPLE SUMMARY

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1282318001	**SD 001 (Seep 020)**	Water	02/01/17 11:30	02/01/17 13:50

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

SAMPLE ANALYTE COUNT

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1282318001	**SD 001 (Seep 020)**	EPA 1664A TPH (1999)	DES	1	PASI-DUL
		USGS I-3765	JJH	1	PASI-V
		EPA 300.0	CSD	1	PASI-V

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

ANALYTICAL RESULTS

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

Sample: SD 001 (Seep 020) **Lab ID: 1282318001** Collected: 02/01/17 11:30 Received: 02/01/17 13:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A TPH (1999)								
Total Petroleum Hydrocarbons	ND	mg/L	3.0	1.0	1		02/06/17 14:20		
USGS I-3765 TSS	Analytical Method: USGS I-3765								
Total Suspended Solids	**1.2**	mg/L	1.0	1.0	1		02/08/17 14:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**941**	mg/L	20.0	10.0	10		02/04/17 08:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

QC Batch: 105349 Analysis Method: EPA 1664A TPH (1999)
QC Batch Method: EPA 1664A TPH (1999) Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 1282318001

METHOD BLANK: 418447 Matrix: Water
Associated Lab Samples: 1282318001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.0	1.0	02/06/17 10:59	

LABORATORY CONTROL SAMPLE: 418448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	17.1	86	64-132	

MATRIX SPIKE SAMPLE: 418449

Parameter	Units	1282419001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	<1.1	20.4	16.2	75	64-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

QC Batch: 105564 Analysis Method: USGS I-3765
QC Batch Method: USGS I-3765 Analysis Description: USGS I-3765 Total Suspended Solids
Associated Lab Samples: 1282318001

METHOD BLANK: 419276 Matrix: Water
Associated Lab Samples: 1282318001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	1.0	1.0	02/08/17 14:45	

LABORATORY CONTROL SAMPLE: 419277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	222	93	80-120	

SAMPLE DUPLICATE: 419278

Parameter	Units	1282549002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	56.0	54.0	4	10	

SAMPLE DUPLICATE: 419279

Parameter	Units	1282575001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	56.0	50.0	11	10	D6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

QC Batch: 105275 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1282318001

METHOD BLANK: 418218 Matrix: Water
Associated Lab Samples: 1282318001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	02/03/17 22:03	

LABORATORY CONTROL SAMPLE: 418219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 418220 418221

Parameter	Units	1282336001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	49.0	50	50	98.7	99.2	99	100	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 418222 418223

Parameter	Units	1282410001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	62.5	50	50	112	113	99	100	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALIFIERS

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DUL	Pace Analytical Services - Duluth
PASI-V	Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 105349

[BF]	Batch extracted by separatory funnel extraction.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.

Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinnTac NPDES-TB Wk 1
Pace Project No.: 1282318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1282318001	**SD 001 (Seep 020)**	EPA 1664A TPH (1999)	105349		
1282318001	**SD 001 (Seep 020)**	USGS I-3765	105564		
1282318001	**SD 001 (Seep 020)**	EPA 300.0	105275		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Re[quest]

The Chain-of-Custody is a LEGAL DOCUMENT. All releva[nt]

WO#:1282318
PM: MMW Due Date: 02/15/17
CLIENT: USS CORP

1

Section A — Required Client Information:

Company:	USS Corporation
Address:	P.O. Box 417
	Mt. Iron, MN 55768
Email:	
Phone:	Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	Tom Moe
Copy To:	
Purchase Order #:	
Project Name:	NPDES-TB Wk1
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	heather.zika@pacelabs.com,
Pace Profile #:	

State / Location

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	TSS,SO4	TRPH 1664	Residual Chlorine (Y/N)	
1	SD 001 (Seep 020)	WT		2-1-17	11:30	2-1-17	11:30												X	X		001
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Paul [signature]	2-1-17	13:50	Megan [signature]	2-1-17	1350	2.1	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Paul Mattila

SIGNATURE of SAMPLER: [signature] DATE Signed: 2-1-17

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: USS Corparation

Project #: **WO# : 1282318**

PM: MMW **Due Date: 02/15/17**

CLIENT: USS CORP

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other:_____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other:_____ **Temp Blank?** ☑ Yes ☐ No

Thermometer Used: ☑ 140792808 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.8 **Cooler Temp Corrected °C:** 2.1 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 **Date and Initials of Person Examining Contents:** 2-1-17 MT

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☐ Yes	☐ No	☑ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☑ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):_____				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: _____ **Date:** 2/1/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Intra-Regional Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: 1282318 **Workorder Name:** USS MinnTac NPDES-TB Wk 1 **Owner Received Date:** 2/1/2017 **Due Date:** 2/15/2017

Received at:	Send To Lab:
Pace Analytical Virginia 315 Chestnut Street Virginia, MN 55792 Phone (218) 742-1042	Pace Analytical Duluth 4730 Oneota Street Duluth, MN 55807 Phone (218) 727-6380

Report To:
Melisa M Woods

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL						Requested Analysis: EPA 1664A TPH (1999)												LAB USE ONLY
1	Sd 001 (Seep 020)	PS	2/1/2017 11:30	1282318001	Water	1						X												
2						1																		
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	2/2/17 [illegible]	[illegible]	2/2/17 [illegible]
2			[illegible]	2/2/17 1535
3				
4				

Comments

Cooler Temperature on Receipt 1.0 **°C** **Custody Seal** (Y) **or N** **Received on Ice** (Y) **or N** **Samples Intact** (Y) **or N**

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

9

Pace Analytical®	Document Name: Sample Condition Upon Receipt Form	Document Revised: 27Jan2017 Page 1 of 1
	Document No.: F-DUL-C-001-rev.02	Issuing Authority: Pace Duluth Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: IR - VM → DUL 1282318

Project #:

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☒ Yes ☐ No

Thermometer Used: ☐ IR-1 ☒ 161014660 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☑ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.1 **Cooler Temp Corrected °C:** 1.0 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: -0.1 C **Date and Initials of Person Examining Contents:** 2/2/17 gs

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☐ Yes	☐ No	☒ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☐ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: AP for MMW **Date:** 2-6-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)